



10 CFR 50.55a

Palo Verde Nuclear
Generating Station

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102-05149-CDM/SAB/RJR
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ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

References: APS Letter 102-05123-CDM/SAB/RMW, "First Revised NRC Order EA-03-009 – Additional Analysis Information for Control Element Drive Mechanism (CEDM) Nozzles, "dated July 1, 2004

Dear Sirs:

**Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2 and 3
Docket No. STN 50-528, 50-529 and 50-530
Response to Request for Additional Information on First Revised
NRC Order EA-03-009 – Additional Analysis Information for Control
Element Drive Mechanism (CEDM) Nozzles**

In the letter referenced above, Arizona Public Service Company (APS) provided additional analysis for Units 1 and 3 CEDM nozzles.

The enclosure to this letter contains APS' response to the NRC's requests for additional information transmitted to PVNGS via e-mail on July 22, 2004 concerning the analysis. This letter contains no new commitments. Should you have any questions, please contact Thomas N. Weber at (623) 393-5764.

Sincerely,

CDM/SAB/RJR/

Enclosure: Response to Request for Additional Information on First Revised NRC Order EA-03-009 – Additional Analysis Information for Control Element Drive Mechanism (CEDM) Nozzles

JE53

US NRC DCD
Response to Request for Additional Information
On First Revised NRC Order EA-03-009 –
Additional Analysis Information for Control Element Drive Mechanism
(CEDM) Nozzles

cc:

J. E. Dyer	(w/Enclosure)
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N. L. Salgado	(w/Enclosure)

Enclosure

**Response to Request for Additional Information
On First Revised NRC Order EA-03-009 –
Additional Analysis Information for Control Element Drive
Mechanism (CEDM) Nozzles**

**Response to Request for Additional Information
On First Revised NRC Order EA-03-009 –
Additional Analysis Information for Control Element Drive Mechanism
(CEDM) Nozzles**

Background

This enclosure contains APS' response to the NRC's requests for additional information transmitted to PVNGS via e-mail on July 22, 2004.

NRC Question 1

In its letter dated July 1, 2004, the licensee stated that they performed an engineering review of the CEDM nozzle inspection data that was acquired for Unit 3 during a previous reactor head penetration inspection effort. The licensee stated that the minimum required inspection distance identified in Table 2 of Reference 2 is expected to be achievable.

Please expand on how the engineering review was conducted and where/how the information was obtained that enabled the licensee to come to the conclusion that the minimum required inspection distances will be "achievable." Can we assume that these distances are the actual inspection distance below the J-groove welds? If they are, please state as such.

APS Response

The ultrasonic test data for each of the APS units was re-analyzed to measure the actual inspection distance below the J-groove weld. The ultrasonic test data can determine the lower end of the weld and the lower extent of the inspection coverage. For the APS units, there is a funnel threaded into the ID of the nozzle, which limits the distance that can be inspected volumetrically from the ID. For each nozzle, the actual inspection distance was measured and tabulated for comparison with the inspection distance requirements reported in Table 2 of Reference 2 of APS letter dated July 1, 2004. The precision of this measurement is ± 0.040 ", so this uncertainty was subtracted from each measurement to determine the acceptability of the coverage distance.

NRC Question 2

In Westinghouse letter to Jim Olszewski dated June 16, 2004, the statement is made: "The initial through-wall flaw size is postulated based on the same methodology as used in the earlier relaxation request submittal." Please explain in detail which submittal model was used because the March 19, 2004 model differs from the May 3, 2004 model.

**Response to Request for Additional Information
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(CEDM) Nozzles**

APS Response

The crack model used is the same as the March 19, 2004 model which is an axial through-wall flaw conservatively postulated with its upper crack tip assumed to be located at the end of the inspection zone, while its lower crack tip is assumed to be located where the hoop stress drops below 0 ksi.